

TEAC



TEAC -00402

SERVICE MANUAL

A-R500/A-R300

Integrated Stereo Amplifier

NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- Δ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.
[GE]: GENERAL EXPORT [E]: EUROPE [UK]: U. K. [A]: AUSTRALIA

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SPECIFICATIONS

Continuous Power Output:

A-R500

RMS : 90W+90W

(20–20,000Hz, 8 ohms, THD 0.08%)

DIN : 100W+100W(1kHz, 8 ohms)

A-R300

RMS : 45W+45W

(20–20,000Hz, 8ohms, THD 0.08%)

DIN : 50W+50W(1kHz, 8 ohms)

Total Harmonic Distortion:

0.05%(1kHz, 8 ohms, continuous rated power output)

Input Sensitivity/Impedance:

PHONO:2.8mV/47k ohms

CD, TUNER, AUX, TAPE, VCR:190mV/47k ohms

Signal-to-Noise Ratio(IHF-A):

A-R500

PHONO : 70dB(5mV)

CD, TUNER, AUX, TAPE, VCR : 90dB

A-R300

PHONO : 65dB(5mV)

CD, TUNER, AUX, TAPE, VCR : 85dB

Output Level/Impedance:

TAPE : 150mV/3.3k ohms

Frequency Response:

PHONO : 20-20,000Hz, ± 1 dB(RIAA)

CD, TUNER, AUX, TAPE, VCR:

10-80,000 Hz, ± 1 -3 dB

Tone Control:

BASS : ± 10 dB(100Hz)

TREBLE : ± 10 dB(10kHz)

Muting :

-20dB

Power Requirements/Power Consumption :

A-R500

230V AC, 50Hz, 350W(Europe)

115/230V AC, 50-60Hz, 350W(General Export)

A-R300

230V AC, 50Hz, 195W(Europe)

115/230V AC, 50-60Hz, 195W(General Export)

Dimensions(W × H × D) :

435 × 135 × 340mm

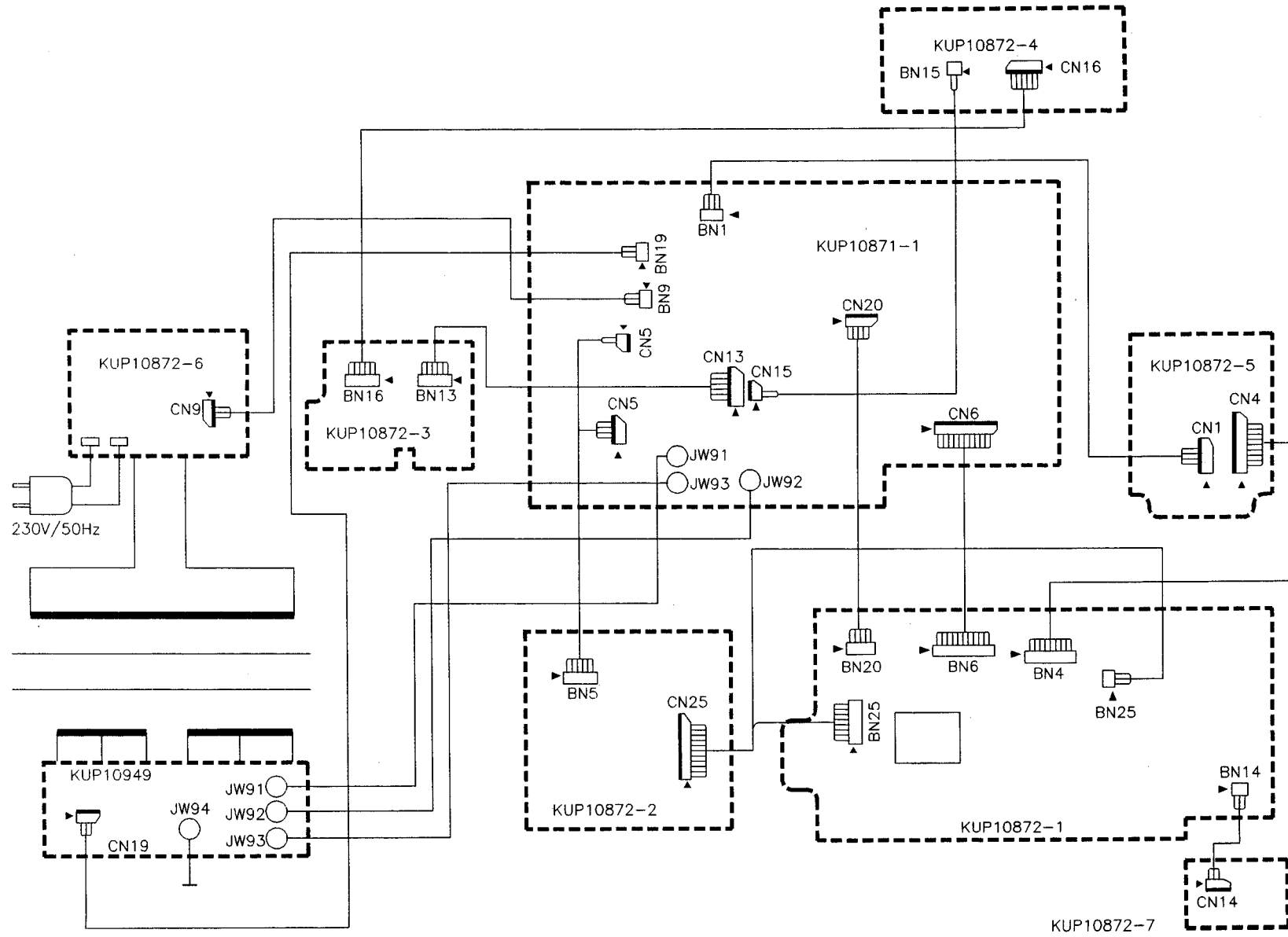
Weight(net) :

A-R500 : 9.9Kg

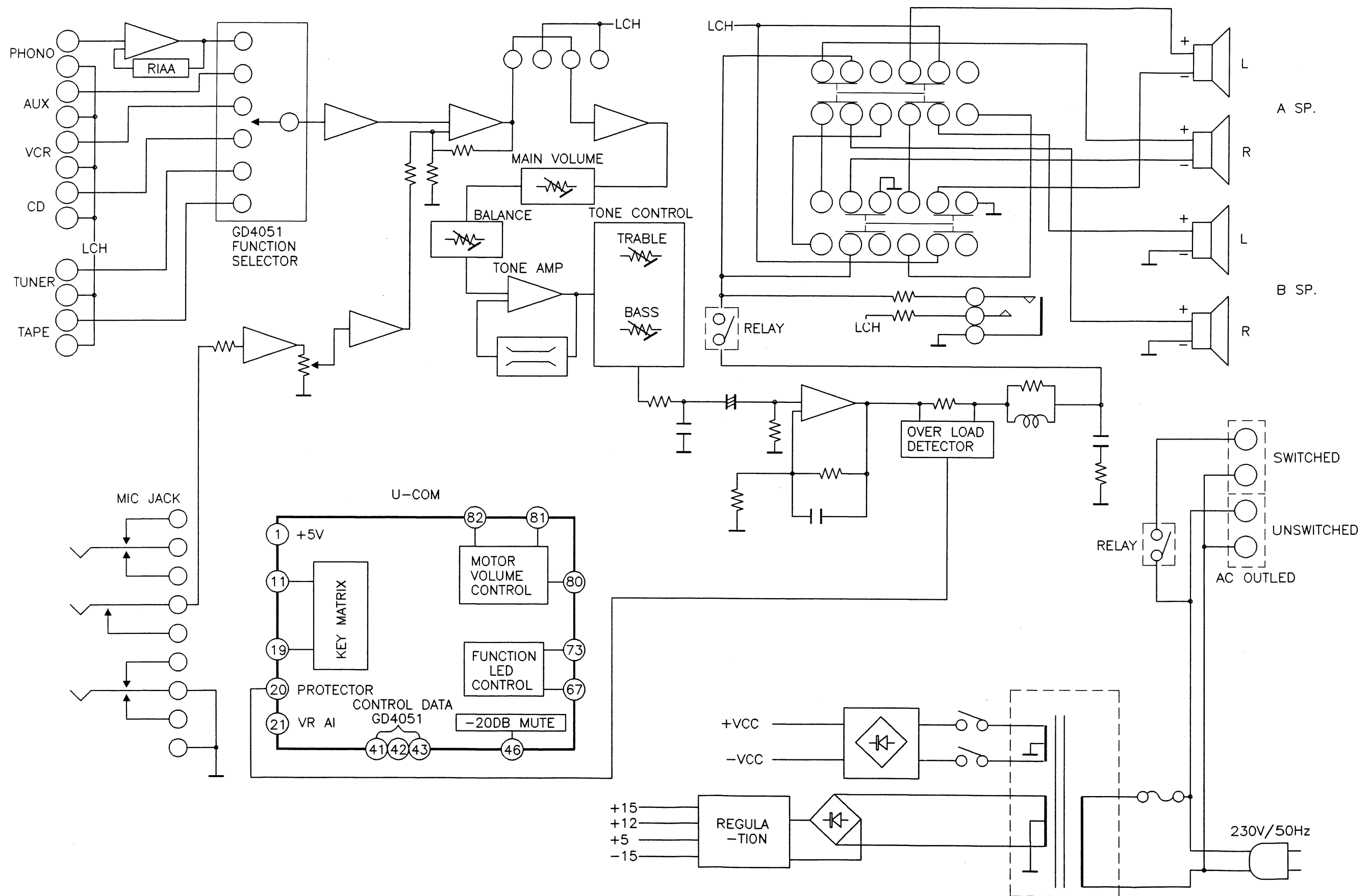
A-R300 : 8.2Kg

- Improvements may result in specifications and features changing without notice.
- Illustrations may differ slightly from production models.

WIRING DIAGRAM

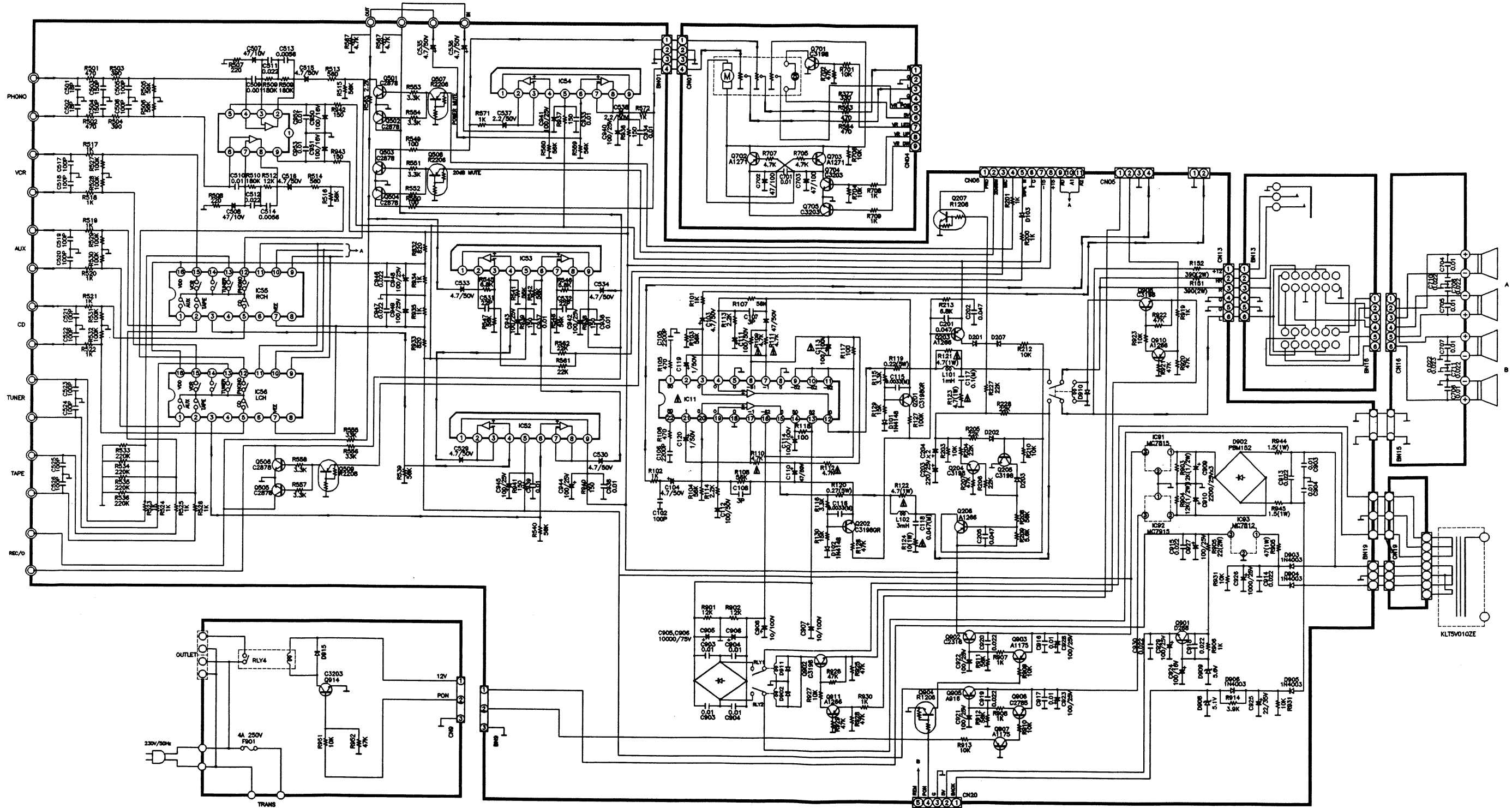


BLOCK DIAGRAM

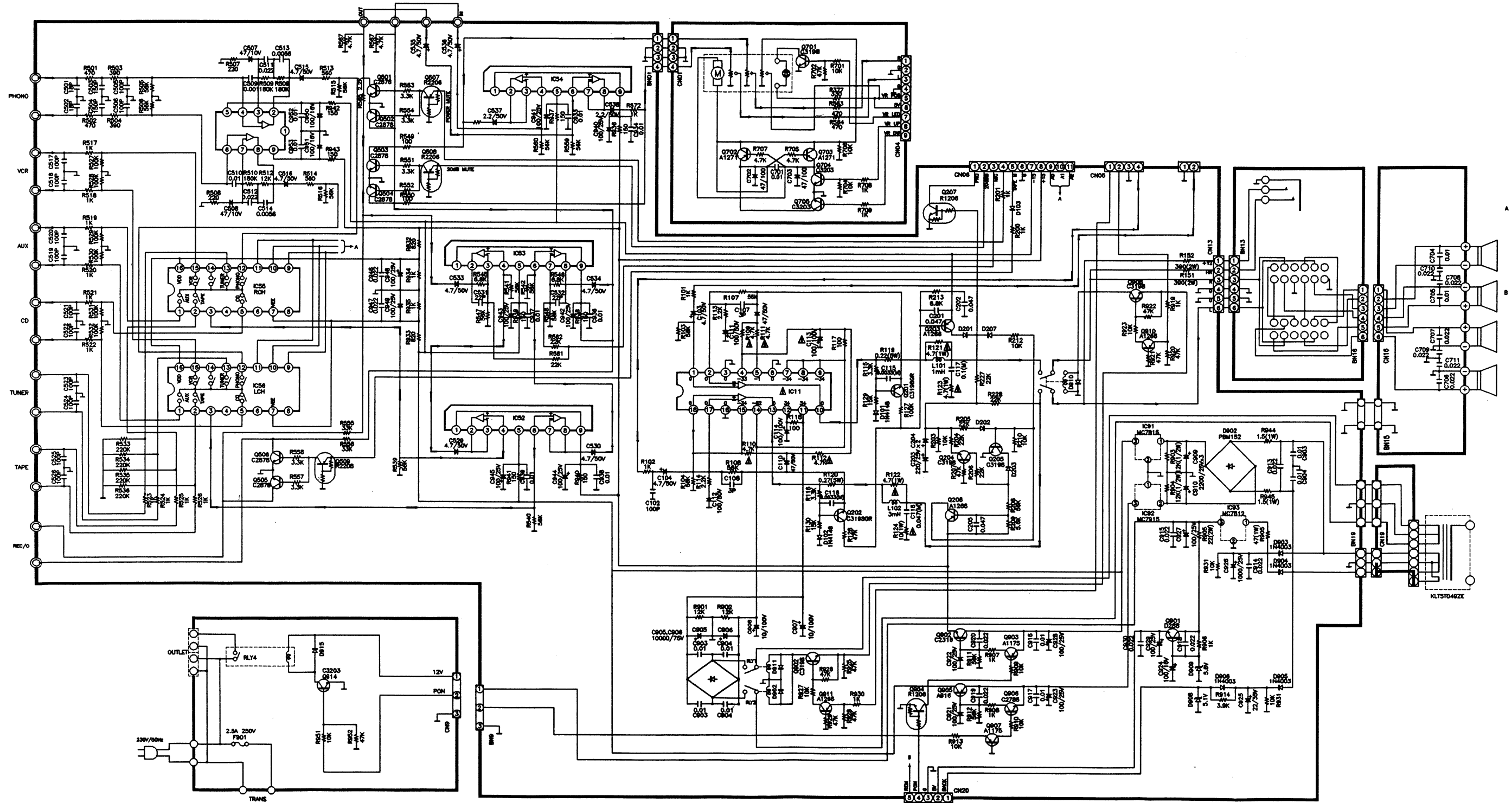


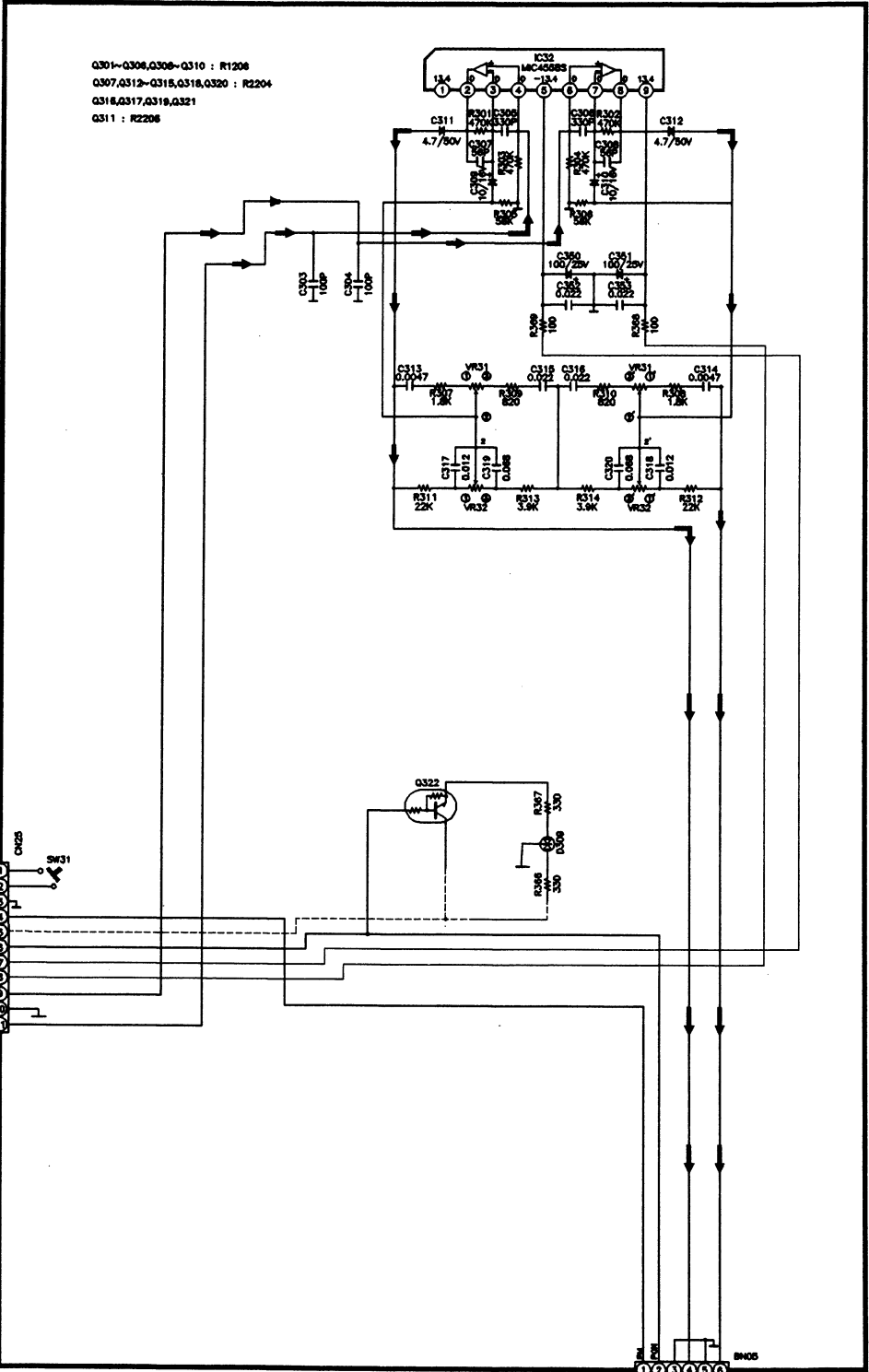
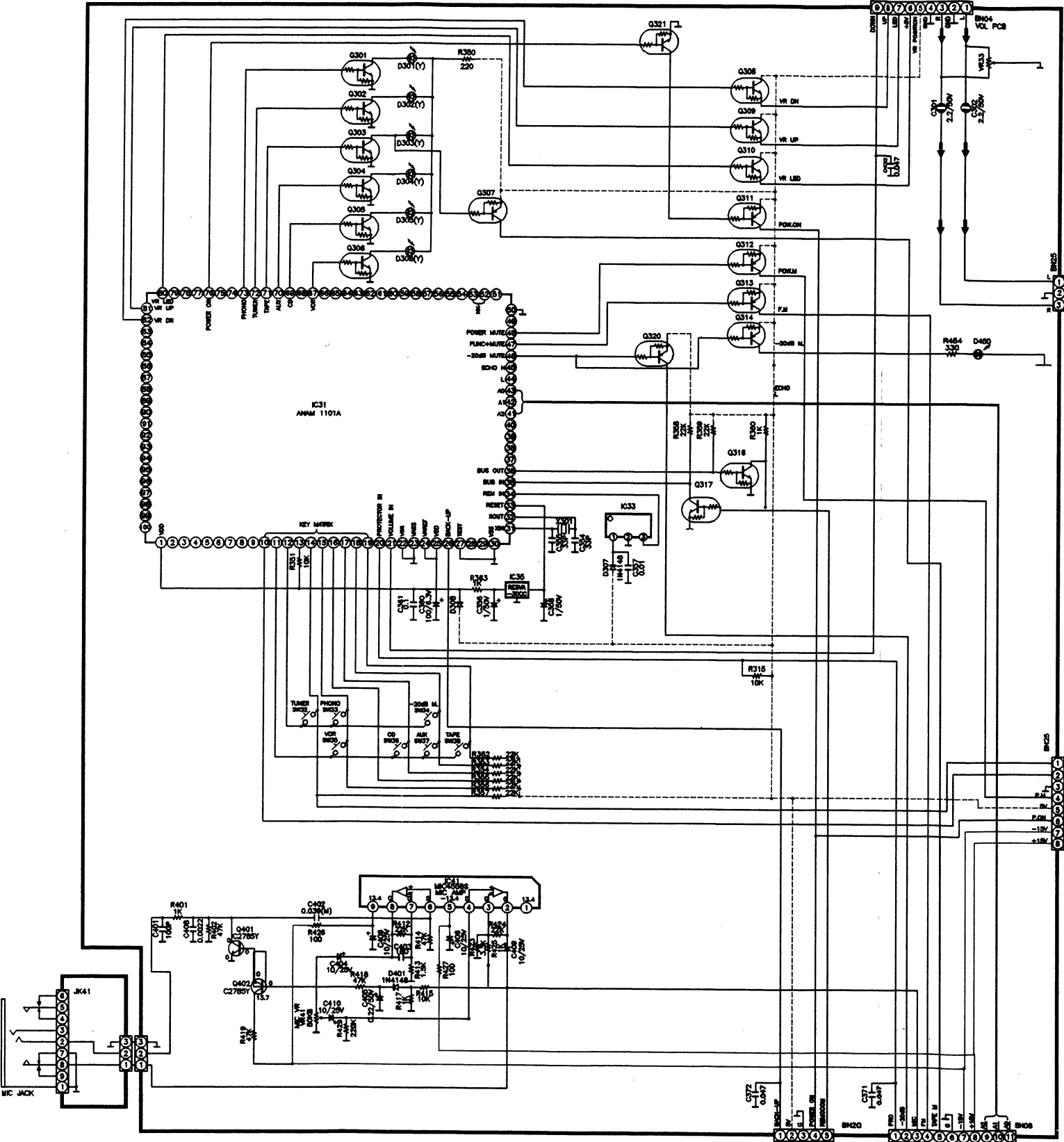
SCHEMATIC DIAGRAM

A-R500 (MAIN)



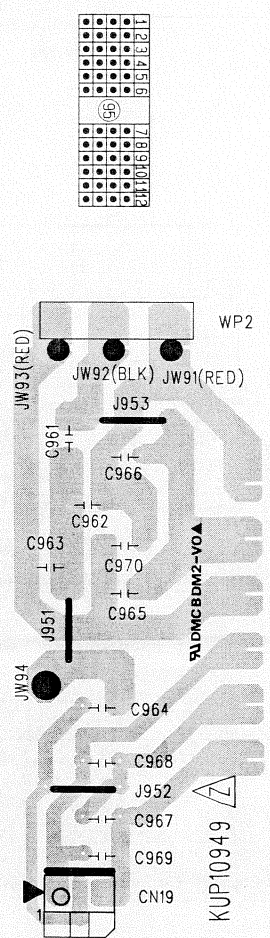
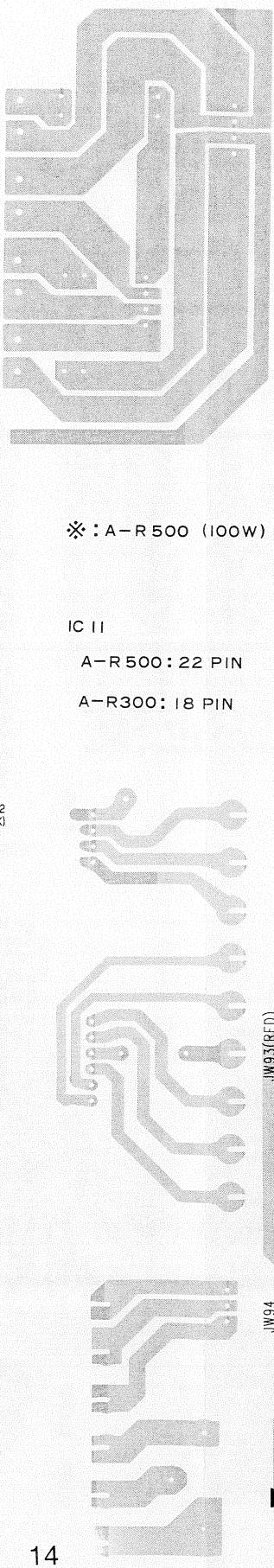
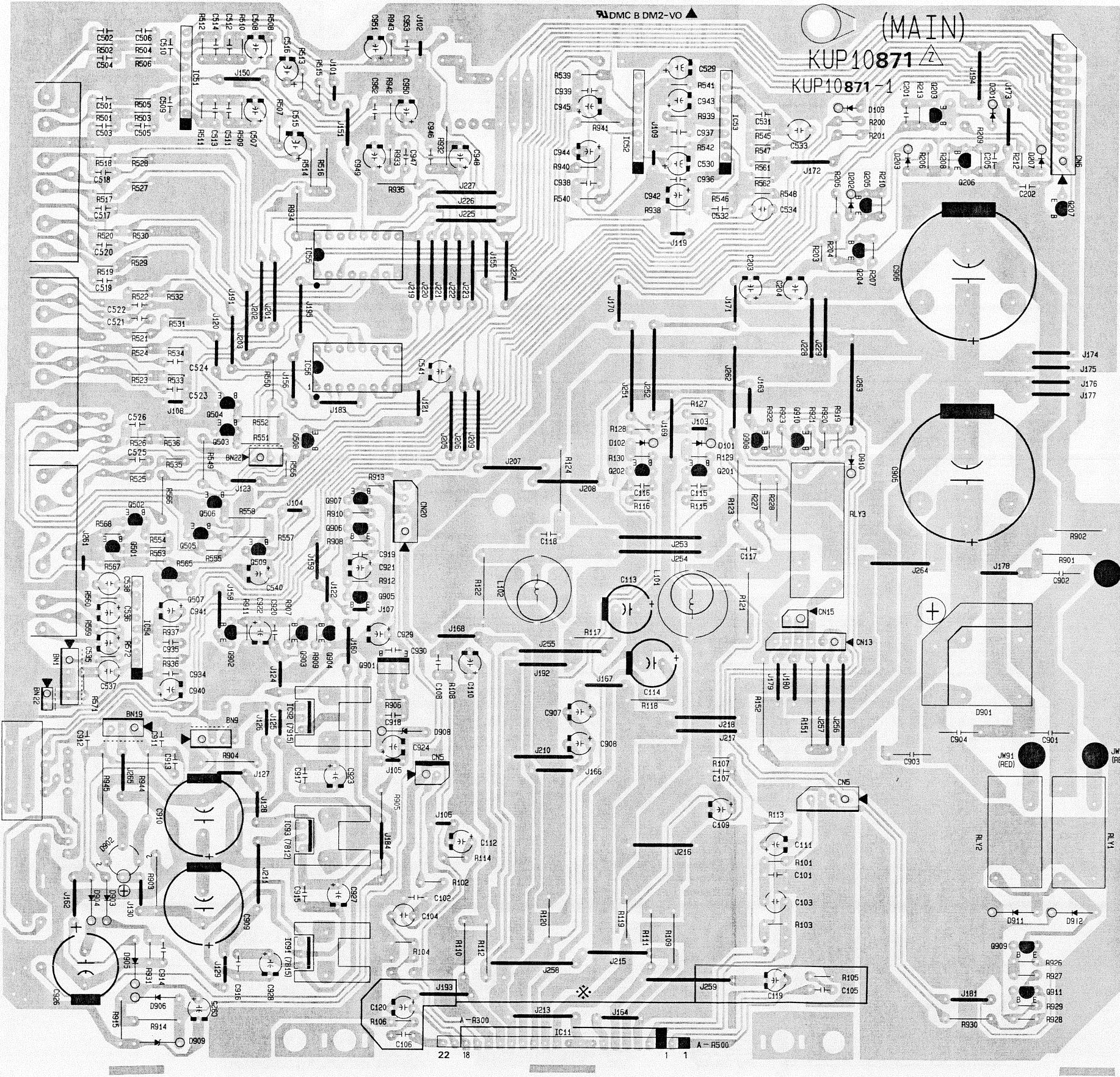
A-R300 (MAIN)





PRINTED CIRCUIT BOARDS

• MAIN PCB



• SUB PCB

KUP10872-3

KUP10872

KUP10872-4

KUP10872-2

KUP10872-6

KUP10872-1

KUP10872-5

BLK RED

WP1

A-R300 : F2.5L 250V

A-R500 : F4L 250V

F901

RLY4

Q914

R951

R952

D915

CN9

JW95

J431

C709

C708

C711

C710

C704

C707

BN15

CN16

M-JACK

R455

C430

CN14

J385

J423

J386

J387

J401

J424

J426

J425

BN16

BN13

C303

C304

J389

VR32

R314

R313

C319

C320

C318

C317

R309

R310

R311

R312

R313

J324

J382

J381

BN5

J380

J379

VR31

C315

C316

R305

R303

R304

G306

C310

R307

C313

C314

J378

CN25

Q322

R367

D309

R366

SW31

Q301

Q302

Q303

Q304

Q305

Q306

Q307

Q308

Q309

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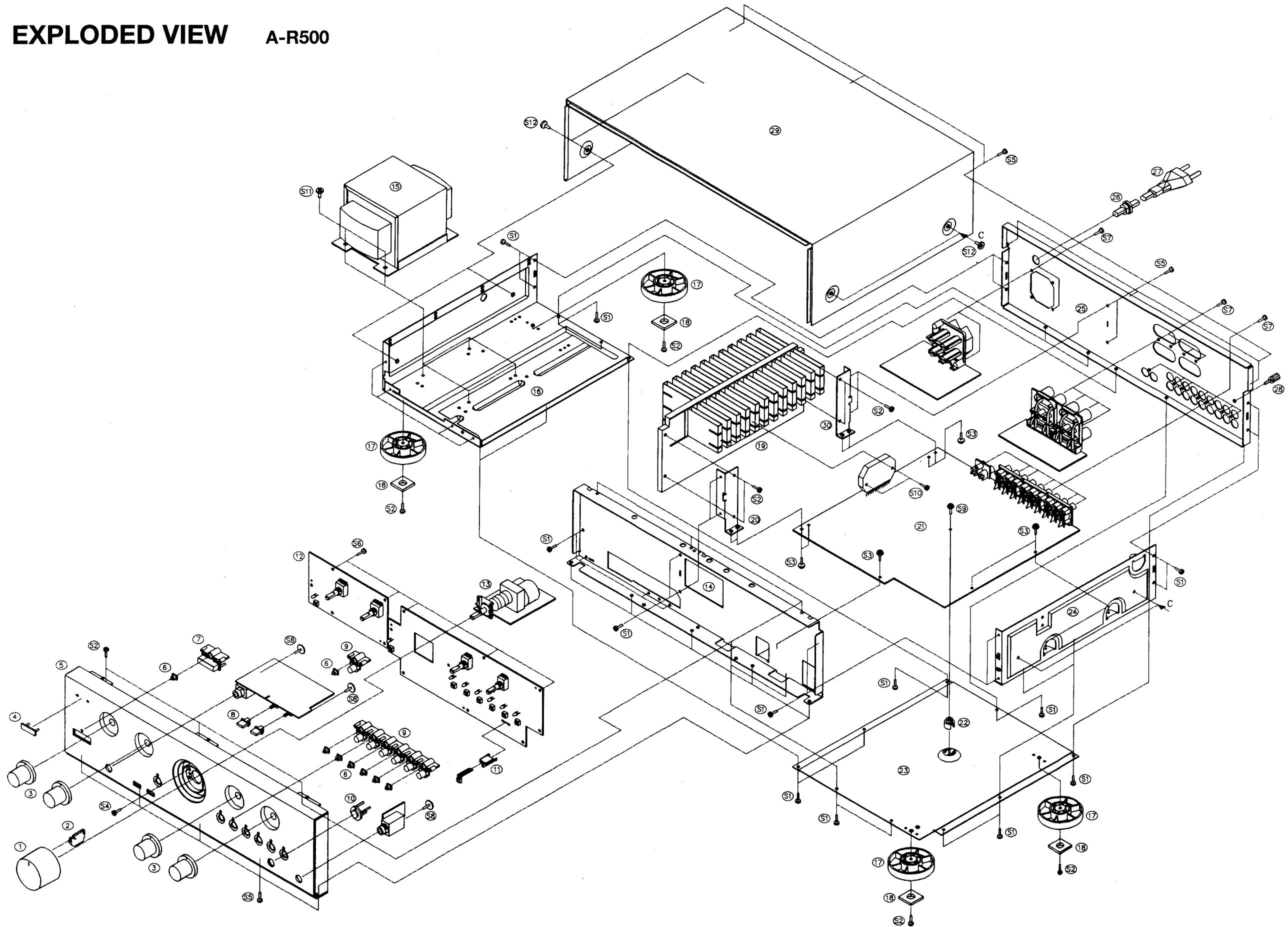
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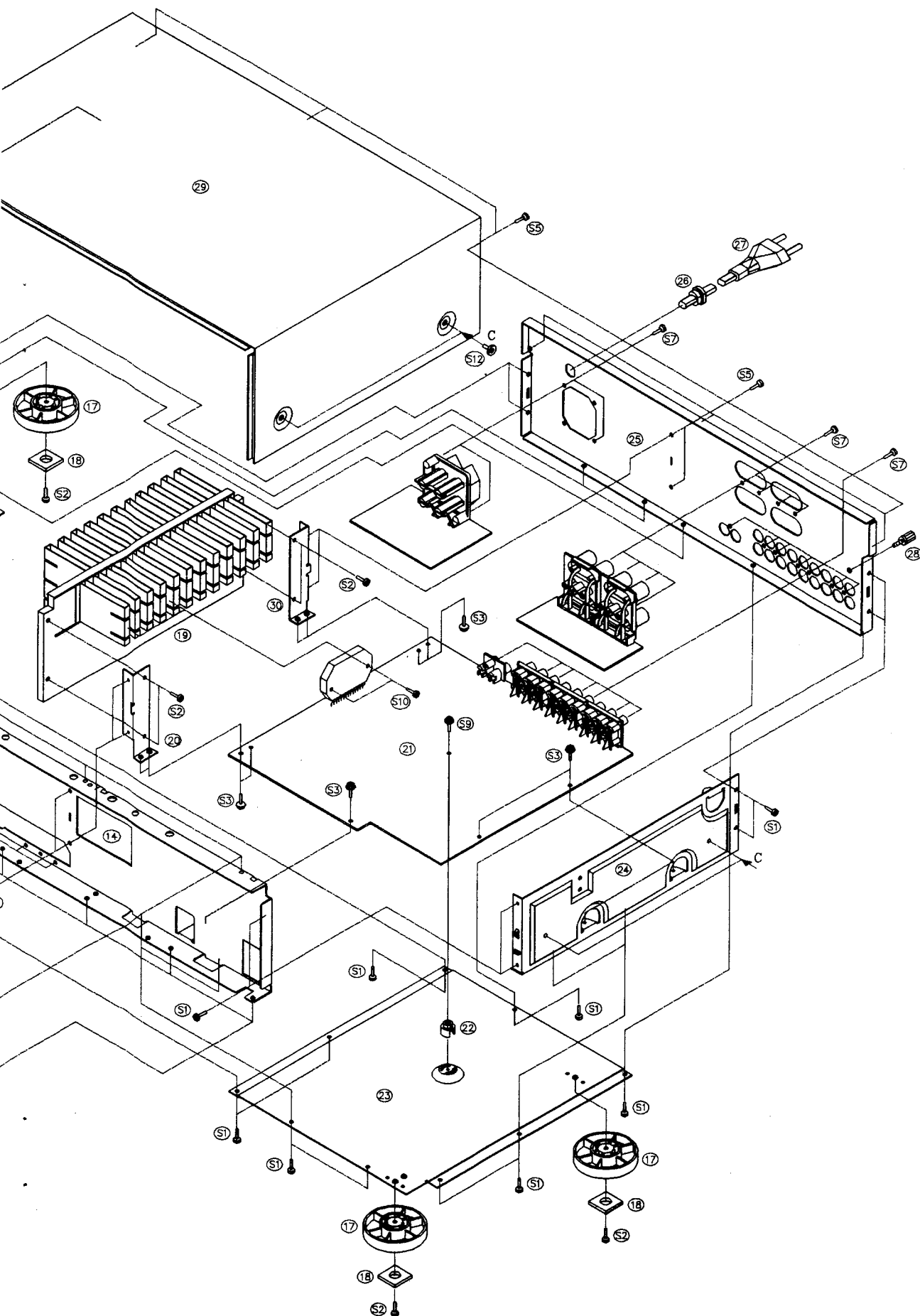
Q616

Q617

Q618</

EXPLODED VIEW A-R500





EXPLODED VIEW [A-R500]

Ref. No.	Part No.	Description	Remarks
1	9A05886600	KNOB,VOLUME	
2	9A05886700	INDICATOR,VOL	
3	9A05886800	KNOB,ROTARY	
4	9A05325000	BADGE,TEAC	
5	9A05886900	PANEL,FRONT	
6	9A05887000	INDICATOR,FUNC	
7	9A05887200	KNOB,POWER	
8	9A05887300	KNOB,SPEAKER	
9	9A05887400	KNOB,TACT	
10	9A05887500	ORNAMENT,REMOTE	
11	9A05887600	HOLDER,REMOTE	
12	9A05918710	SUB PCB ASSY	
		VOLUME PCB ASSY	
14	9A05891100	CHASSIS,FRONT	
15	Δ 9A05891200	TRANS,POWER [E]	
	Δ 9A05897500	TRANS,POWER [GE]	
16	9A05891300	CHASSIS,BOTTOM	
17	9A05891400	FOOT,FRONT	
18	9A05891500	FOOT,CUSHION	
19	9A05891600	HEAT SINK	
20	9A05923800	BRACKET,HEAT	
21	9A05891910	MAIN PCB ASS'Y	
22	9A01375500	PCB HOLDER	
23	9A05891900	PLATE,BOTTOM	
24	9A05892000	GUIDE,BOTTOM	
25	9A05892100	PANEL,REAR	
26	Δ 9A01376900	CORD PUSHING	
27	Δ 9A05892200	CORD, POWER [E]	
	Δ 9A05897600	CORD, POWER [GE]	
28	9A04883700	GROUND TERMINAL	
29	9A05892300	CABINET, TOP	
30	9A05923000	BRACKET,HEAT	
S1	9A01532600	SCREW	
S2	9A01535800	SCREW,KTB3*8J	
S3	9A05339200	SCREW KTW3+8J	
S4	9A05892400	SCREW	
S5	9A01377200	SCREW	
S6	9A01377400	SCREW,KTB3*10G	
S7	9A01377300	SCREW	
S8	9A01377600	SCREW	
S9	9A05339100	SCREW KTW3+12J	
S10	9A05338500	SCREW KTB3+16J	
S11	9A01477800	SCREW,KTB4*8F	
S12	9A01397700	SCREW	

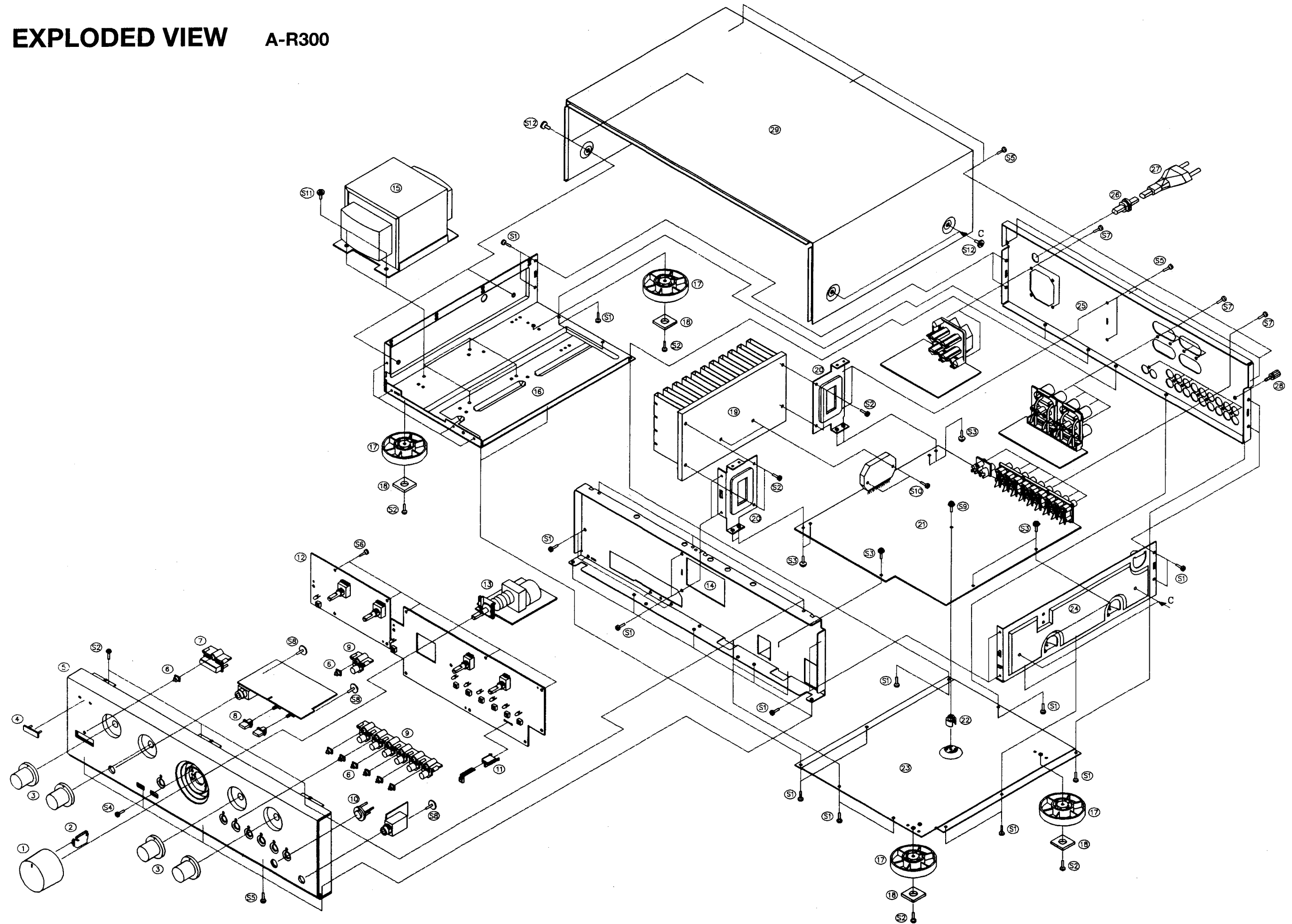
INCLUDED ACCESSORIES

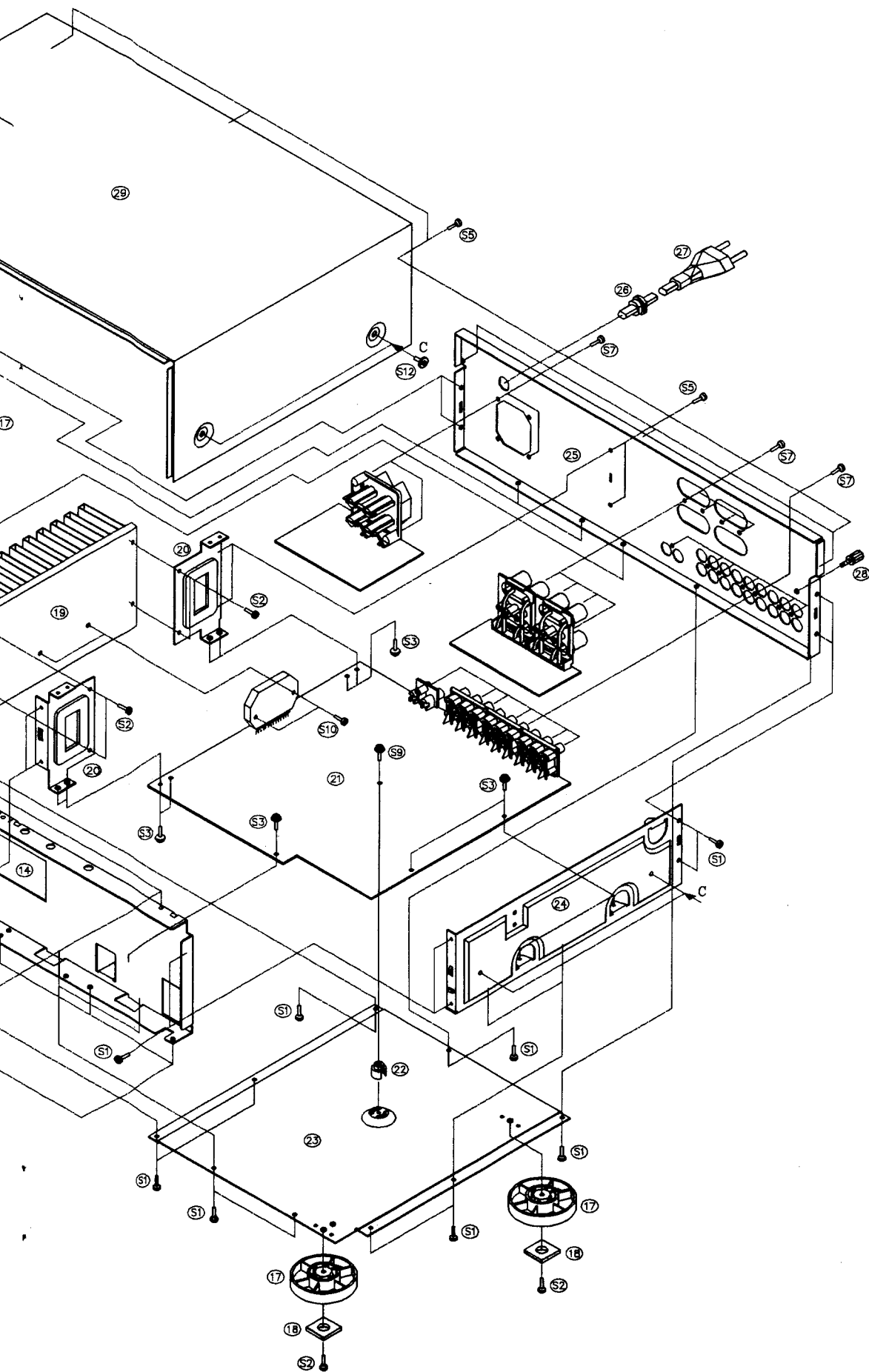
Ref. No.	Part No.	Description	Remarks
	9A05573400	OWNER'S MANUAL, A-R500/300	
	9A05808200	REMOTE TRANSMITTER ASSY	

Parts marked with * require longer delivery time.

[E] : EUROPE [GE] : GENERAL EXPORT

EXPLODED VIEW A-R300





EXPLODED VIEW [A-R300]

Ref. No.	Part No.	Description	Remarks
1	9A05886600	KNOB,VOLUME	
2	9A05886700	INDICATOR,VOL	
3	9A05886800	KNOB,ROTARY	
4	9A05325000	BADGE,TEAC	
5	9A05886900	PANEL,FRONT	
6	9A05887000	INDICATOR,FUNC	
7	9A05887200	KNOB,POWER	
8	9A05887300	KNOB,SPEAKER	
9	9A05887400	KNOB,TACT	
10	9A05887500	ORNAMENT,REMOTE	
11	9A05887600	HOLDER,REMOTE	
12	9A05918700	SUB PCB ASSY	
13		VOLUME PCB ASSY	
14	9A05891100	CHASSIS,FRONT	
15	Δ 9A05897800	TRANS,POWER [E]	
	Δ 9A05910000	TRANS,POWER [GE]	
16	9A05891300	CHASSIS,BOTTOM	
17	9A05891400	FOOT,FRONT	
18	9A05891500	FOOT,CUSHION	
19	9A05891600	HEAT SINK	
20	9A05891700	BRACKET,HEAT	
21	9A05919000	MAIN PCB ASSY	
22	9A01375500	PCB HOLDER	
23	9A05891900	PLATE,BOTTOM	
24	9A05892000	GUIDE,BOTTOM	
25	9A05892100	PANEL,REAR	
26	Δ 9A01376900	CORD PUSHING	
27	Δ 9A05892200	CORD, POWER [E]	
	Δ 9A05897600	CORD, POWER [GE]	
28	9A04883700	GROUND TERMINAL	
29	9A05892300	CABINET, TOP	
S1	9A01532600	SCREW	
S2	9A01535800	SCREW, KTB3*8J	
S3	9A05339200	SCREW KTW3+8J	
S4	9A05892400	SCREW	
S5	9A01377200	SCREW	
S6	9A01377400	SCREW, KTB3*10G	
S7	9A01377300	SCREW	
S8	9A01377600	SCREW	
S9	9A05339100	SCREW KTW3+12J	
S10	9A05338500	SCREW KTB3+16J	
S11	9A01477800	SCREW, KTB4*8F	
S12	9A01397700	SCREW	

INCLUDED ACCESSORIES

Ref. No.	Part No.	Description	Remarks
	9A05573400	OWNER'S MANUAL, A-R500/300	
	9A05808200	REMOTE TRANSMITTER ASSY	

Parts marked with * require longer delivery time.

[E] : EUROPE [GE] : GENERAL EXPORT

RESISTORS AND CAPACITORS

- Notes :
- Part numbers are indicated for most mechanical parts.
Please use this part number for parts order.
 - IMPORTANT SAFETY NOTICE.
Components identified by \triangle mark have special characteristics important for safety.
When replacing any of these components, use only manufacture's specified parts.
 - The unit of resistance is OHM(Ω)
K=1000(Ω), M=1000(Ω)
 - The unit of capacitance is MICROFARED(μ F)
P= $10^{-6}\mu$ F

■ Numbering System of Resistor

Example

KRD	25	F	J
Type	Wattage	Shape	Tolerance
Resistor	Wattage	Tolerance	
KRD: Carbon	20:1/5W	F:±1%	
KRG: Metal Oxide	25:1/4W	J:±5%	
	50:1/2W	K:±10%	
	12:1/2W		
KRF: Metal Cement	1:1W		
	2:2W		
	3:3W		

■ Numbering System of Capacitor

Example

101	KCKR	1H	101	K	B
Value	Type	Voltage	Value	Tolerance	Peculiarity
Capacitor Type	Voltage		Tolerance		
	ECEA Type	Other			
KCB: Ceramic	0J:6.3V	1H:50V DC	C:±0.25pF		
KDD: Ceramic	1A:10V	1:125V DC	G:±2%		
KCK: Ceramic	1C:16V	KC:400V AC	J:±5%		
KCFR: Semiconductor	1E:25V	D25V DC	K:±10%		
KCQI: Polyester	1H:50V		Z:±80%, -20%		
KCQP: Polypropylene	1V:35V				
KCQS: Polystyrol					

MAIN PCB ASSY

Ref. No.	Part No.	Description
	9A05919000	MAIN PCB ASSY [A-R300]
	9A05919010	MAIN PCB ASSY [A-R500]
	9A05893200	MAIN PCB
	9A05897400	TERMINAL,SPEKER
CN05	9A05328900	WAFER MOLEX 5267-02A
CN05	9A05329300	WAFER MOLEX 5267-04A
CN06	9A05890200	WAFER(11P)
CN15	9A05328900	WAFER MOLEX 5267-02A
CN20	9A05894700	WAFER(5P)
C103,104	9A05322200	C,ELEC A1HQ4R7B
C905,906	△ 9A05922400	C.,6800UF/63V [A-R300]
	△ 9A05894600	C.,6800UF/63V [A-R500]
C909,910	△ 9A01402000	C,ELEC 2200UF/25V
D101	9A01390500	DIODE,1N4148MT
D103	9A01390500	DIODE,1N4148MT
D201-203	9A01390500	DIODE,1N4148MT
D207	9A01390500	DIODE,1N4148MT
D902	9A05188900	DIODE,PBM152F
D903-906	9A05194700	DIODE,1N4003ST
D908	△ 9A05894800	DIODE,ZENER
D909	△ 9A05194500	DIODE,ZENER UZ5.6BMT
D910	9A01390500	DIODE,1N4148MT
D911	9A01390600	DIODE,1N4148T
IC11	△ 9A04881100	IC,STK4192(2) [A-R300]
	△ 9A05895000	IC,STK4231(2) [A-R300]
IC31	9A05918300	IC, BVIANAM1128R
IC51-54	△ 9A05195800	IC,MC4558S
IC55,56	△ 9A04929100	IC,GD4051B
IC91	△ 9A05895100	IC MC7815C
IC92	△ 9A05895200	IC MC7915C
IC93	△ 9A05196000	IC,MC7812C
L101,102	9A04875100	COIL [A-R300]
	9A04895800	COIL [A-R500]
Q201,202	9A05892800	TR.,C3198
Q203	9A05895900	TR.,A1266
Q204,205	9A05892800	TR.,C3198
Q206	9A05895900	TR.,A1266
Q207	9A05196900	TR,KSR1206T
Q501-506	9A05896000	TR.,C2878
Q507-509	9A03745200	TR.,KVTKSR2206T
Q901	△ 9A01388300	TR.,KVTKSD288Y
Q902	9A05196800	TR,KSC2316YT
Q903	9A03745100	TR.,KVTKSA1175YT
Q904	9A05196900	TR,KSR1206T
Q905	9A05196700	TR,KSA916YT
Q906	9A03745000	TR.,KVTKSC2785YT
Q907	9A03745100	TR.,KVTKSA1175YT
Q908,909	9A05197400	TR,KTC3203YT
Q910,911	9A05895900	TR.,A1266
RLY1,2	9A05897300	RELAY
RLY3	9A01423700	RELAY
RLY4	9A05897300	RELAY
R109-112	△ 9A05898100	R.,3.3KOHM,1/2W [A-R300]
	△ 9A05896100	R.,4.7KOHM,1/2W [A-R500]
R119,120	△ 9A05896300	R.,0.22-OHM,5W
R121,122	△ 9A05896400	R.,4.7-OHM,1W
R123,124	△ 9A05338000	R,METAL 1ANJ100H
R151,152	△ 9A05896500	R.,390-OHM,2W
R901-904	△ 9A05896900	R.,12K-OHM,1/2W
R905	△ 9A05897000	R.,22-OHM,2W
R944,945	△ 9A05897200	R.,0.47-OHM,1W

SUB PCB ASSY

Ref. No.	Part No.	Description
	9A05918700	SUB PCB ASSY [A-R300]
	9A05918710	SUB PCB ASSY [A-R500]
	9A05888100	SUB PCB
CN09	9A05329100	WAFER MOLEX 5267-03A
CN09	9A05329100	WAFER MOLEX 5267-03A
CN13	9A05329600	WAFER MOLEX 5267-06A
CN13	9A05329600	WAFER MOLEX 5267-06A
CN16	9A05329600	WAFER MOLEX 5267-06A
CN16	9A05329600	WAFER MOLEX 5267-06A
CN25	9A05890200	WAFER(11P)
D301,306	9A05890300	LED, YCF02TO85
D307	9A01390600	DIODE,1N4148T
D309	9A05194300	LED,SPR39MVW3
D401	9A01390600	DIODE,1N4148T
D450	9A05194300	LED,SPR39MVW3
F901	△ 9A05306900	FUSE F2.5A [A-R300]
	△ 9A05894900	FUSE F4A [A-R500]
IC31	9A05890400	IC, ANAM1101A
IC32	9A05195800	IC,MC4558S
IC33	9A05424700	IC BVIRPM638CBL
IC35	9A05317300	I.C RE5VA30CC
IC41	9A05195800	IC,MC4558S
JK04	9A05316900	JACK HTJ064-05BG
JK05	9A05895400	JACK
JK06	△ 9A05895700	OUTLET,AC
Q301-306	9A05196900	TR,KSR1206T
Q307	9A05198800	TR,KSR2204T
Q308-310	9A05196900	TR,KSR1206T
Q311	9A03745200	TR.,KVTKSR2206T
Q312-315	9A05198800	TR,KSR2204T
Q316,317	9A03745200	TR.,KVTKSR2206T
Q318	9A05198800	TR,KSR2204T
Q319	9A03745200	TR.,KVTKSR2206T
Q320	9A05198800	TR,KSR2204T
Q321	9A03745200	TR.,KVTKSR2206T
Q322	9A05196900	TR,KSR1206T
Q323	9A03745000	TR.,KVTKSC2785YT
Q401,402	9A03745000	TR.,KVTKSC2785YT
Q704,705	9A05197400	TR,KTC3203YT
RLY4	9A05897300	RELAY
R368,369	△ 9A01379900	R., CARBON 1/4W 100
R426,427	△ 9A01379900	R., CARBON 1/4W 100
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SW39	9A05922100	PUSH SW
SW40	9A01393800	SW, SP
VR31,32	9A05890600	VR.2X01C104Z
VR33	9A05890700	VR.1U02W104Z
VR41	9A05890800	VR.1U01503Z
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	9A01393800	CORE
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